Deseret Chemical Depot
Attachment 1
Waste Analysis Plan

Waste Analysis Plan

1.0 Background and Scope [R315-3-2.5(b)(3), R315-13-1; 40 Code of Federal Regulations (CFR) § 264.13, 268.7]

1.1 The following sections address the various components of the Deseret Chemical Depot (DCD) Waste Analysis Plan (WAP). Components of the WAP include analytical parameters and the rationale for their selection, test methods, sampling methods, frequency of analysis, and additional requirements for reactive, ignitable, or incompatible wastes, and for wastes generated offsite.

2.0 Analytical Parameters and Rationale [R315-8-2.4, R315-5-1.11; 40 CFR § 264.13(b)(1), 268]

2.1 The primary purposes of waste analyses at DCD are to adequately characterize wastes to ensure safe storage and handling and compliance with both Land Disposal Restriction (LDR) criteria in 40 CFR § 268 and the waste acceptance criteria of the Commercial Treatment, Storage, and Disposal Facility (TSDF) receiving the waste.

2.2 Waste is characterized based on process knowledge and/or laboratory analysis. DCD first determines if the waste is a listed waste in 40 CFR § 261 Subpart D. If the waste is not listed, DCD determines if the waste exhibits a characteristic identified in 40 CFR § 261 Subpart C. The extent of sampling and analysis needed to characterize a waste stream is based on the completeness of process knowledge, anticipated end uses of the characterization data, anticipated disposition of the wastes, and regulatory requirements. Table 1-1-5, Sampling Methods and Rationale by Waste Stream, describes analyses required to characterize each of the waste streams listed in Section 4 in this Attachment, as well as the rationale for each analysis selected (Appendix 1-1). The analytical methods applied to specific wastes may be modified by DCD in the future, based on process knowledge and improvements in analysis and/or detection with approval from the Executive Secretary, in accordance with R315-3-4.3.

2.3 DCD may use engineering judgment and knowledge of the production process and waste characteristics to decide whether or not the waste is a hazardous waste in accordance with UAC R315-5-1.11. Existing published data which includes Material Safety Data Sheet (MSDS) or analytical data on the hazardous waste, may be used to satisfy the waste analysis requirements of UAC R315-8-2.4. Process knowledge of each waste stream is summarized in Section 4 of this Attachment.

2.4 Wastes are stored and managed by DCD in authorized storage areas. Locations of permitted storage areas are shown on Fig. 6-1, Attachment 6, (General Facility Description).

2.5 Permitted storage igloos are used to store, overpacked leaker chemical munitions, waste bulk items, and hazardous wastes with and without free liquids. Building 4107 and Building 4553 also store hazardous wastes with and without free liquids. Wastes without free liquids are stored in Building 4536. Waste piles of discarded igloo doors and other equipment are stored in Building 4107. Waste explosives intended for open burning/open detonation (OB/OD) are stored in the OB/OD Conex.

3.0 Chemical And Physical Analysis of Wastes [R315-3-2.5, 40 CFR § 264.13(a)]

3.1 The current hazardous waste inventory at DCD consists of waste chemical munitions and bulk chemical agent, as well as agent-related and non-agent-related wastes. The following sections describe the Environmental Protection Agency (EPA) Hazardous Waste Numbers (waste codes) applicable to hazardous wastes stored at DCD. Waste stream analyses and generator process knowledge are used for waste code designations.

3.2 Appendix 1-1, Table 1-1-1, Resource Conservation and Recovery Act (RCRA) Hazardous Waste Designation and Rationale, lists the RCRA waste codes associated with each hazardous waste stream stored at DCD and summarizes the basis for each designation. The rationale for designation is described in detail in the following sections. Waste streams are listed by site in Appendix 1-1, Table 1-1-2, Hazardous Waste Streams and Storage Areas.

4.0 Containerized Waste [R315-8-9.3, R315-8-9.6]

4.1 Leaking and overpacked chemical munitions are hazardous waste. Agent drained from waste chemical munitions and residue from stockpile treatment or testing are hazardous waste.

4.2 Residues from demilitarization, treatment and testing of military chemical agents are listed as F999 per R315-2-10. Chemical agent related residues shall carry the P999 waste code if agent is detected above the waste control limits. Waste chemical munitions and their residues may also contain explosive constituents (D003).

4.3 Nerve, military, and chemical agents are assigned the P999 waste code as defined in UAC R315-2-11(e).

4.4 During hydrolysis or other degradation processes, mustard agents produce hazardous compounds. Some potential products of degradation of mustard are chloroform, 1,2-dichloroethane, hexachloroethane, tetrachloroethylene, trichloroethylene, vinyl chloride, hydrochloric acid, and thiodiglycol. Agent VX will produce several toxic products if hydrolyzed at a basic pH: ethyl methylphosphonic acid, methylphosphinic acid, diisopropyminoethylmercaptan, diethyl methylphosphonate,ethanol, and EA 2192 and EA 4196 . Agent GB will hydrolyze to form hydrofluoric acid under acidic conditions, and will form isopropyl alcohol and polymers under basic conditions.

4.5 Metal alloys that make up chemical munition casings are in direct contact with chemical agent that is contained in the round or bulk container and may react with the agents, mustard, Lewisite, VX, GA and GB to release toxicity characteristic metals. For the purpose of Storage of Waste Chemical Munitions DCD will assign the waste code P999 applicable to the chemical agent waste. Waste codes such as heavy metals applicable to propellant and explosives will be identified prior to storage.

5.0 The following are brief descriptions of munitions stored at DCD, any of which could be managed as a hazardous waste.

Figure 1-1 Schematic of M23 Mine

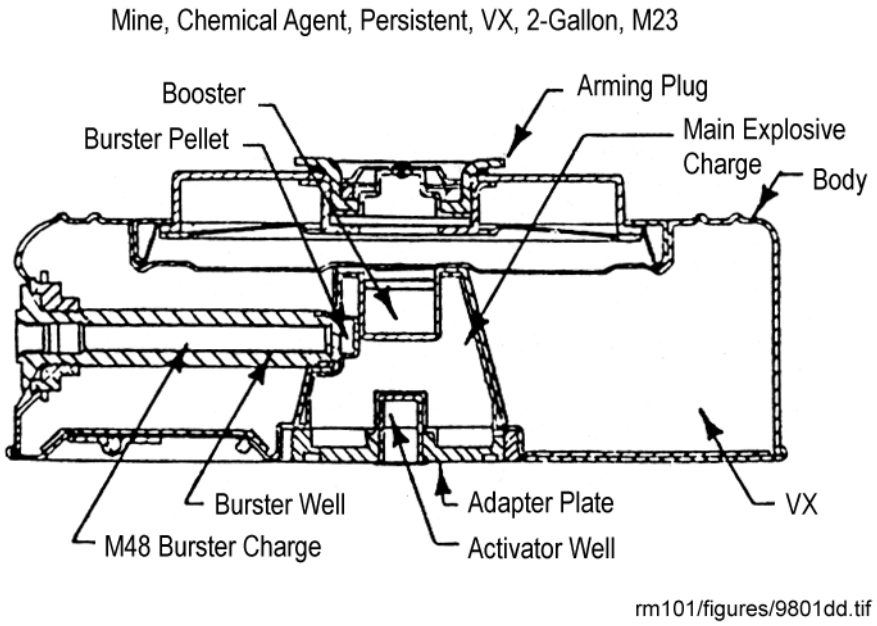

Table 1-2: M23 Mine

Physical Characteristic	M23 Mine
Height	5 inches
Diameter	13.5 inches
Total Weight	23 pounds
Chemical Agent	VX
Chemical Agent Weight	10.5 pounds
Fuze	M603
Burster	M38
Explosive	Composition B
Explosive Weight	0.8 pounds
Propellant	N/A
Propellant Weight	N/A
Initiator	M48
Packaging	3 mines per 16-gallon mine drum

Figure 1-2 Schematic of TMU-28B Spray Tank

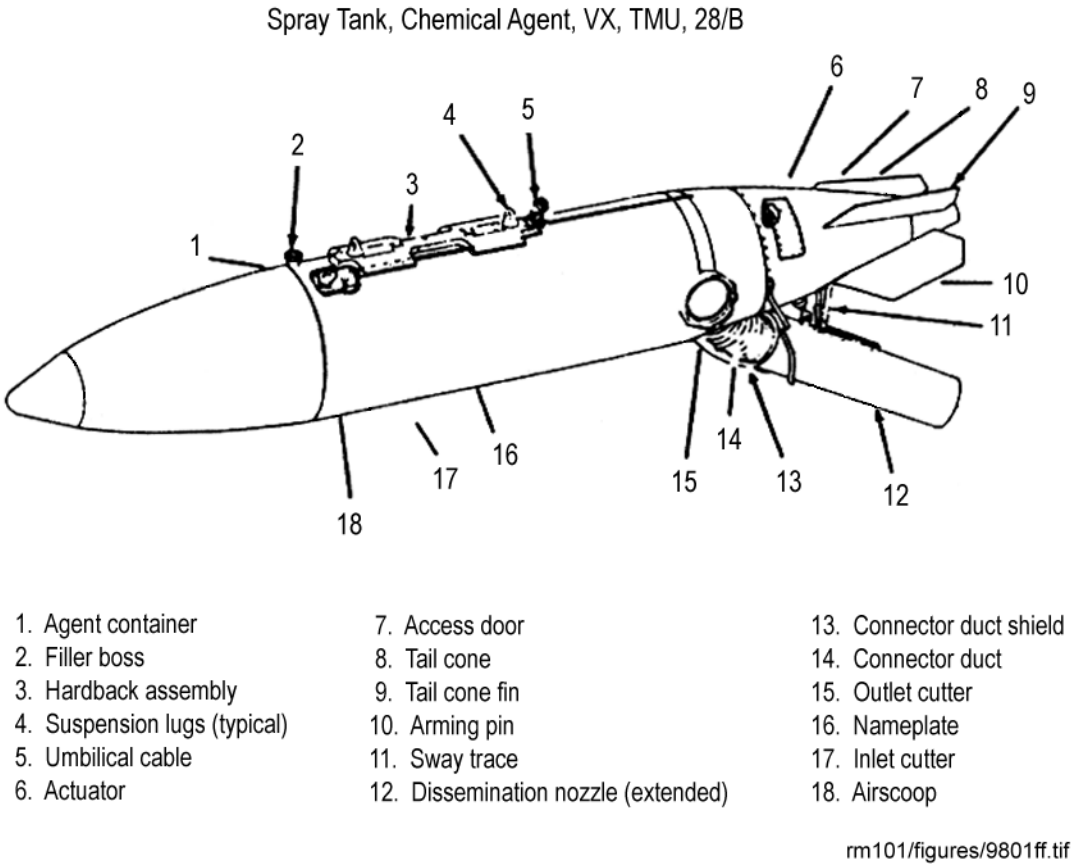

Table 1-3: TMU-28B Spray Tank

Physical Characteristic	TMU-28B Spray Tank
Length	185.5 inches
Diameter	22.5 inches
Total Weight	1,935 pounds
Chemical Agent	VX
Chemical Agent Weight	1,356 pounds
Fuze	N/A
Burster	N/A
Explosive	N/A
Explosive Weight	N/A
Propellant	N/A
Propellant Weight	N/A
Other Energetic Components	MLU-39/B, MLU-40A/B
Packaging	Stored in CNU-77/E23 containers

Figure 1-3 155 mm Howitzer Projectile

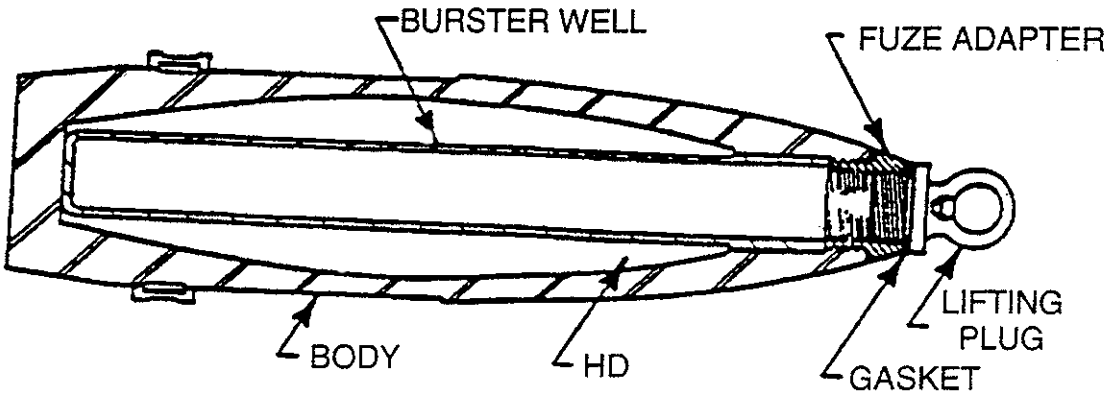

Table 1-4: Projectile, 155mm Howitzer, M104, M110, M121A1, M121

Physical Characteristic	M104	M110	M121A1	M121
Length	26.8 inches	26.8 inches	26.8 inches	26.8 inches
Diameter	155 mm	155mm	155mm	155mm
Total Weight	95 pounds	94.5 pounds	98.9 pounds	98.9 pounds
Chemical Agent	H	H	VX	VX
Chemical Agent Weight	11.7 pounds	11.7 pounds	6.3 pounds	6.3 pounds
Fuze	N/A	N/A	N/A	N/A
Burster	M6	M6	M71	M71
Explosive	Tetrytol	Tetrytol	Comp B	Comp B
Explosive Weight	0.41 pounds	0.41 pounds	0.41 pounds	0.41 pounds
Propellant	N/A	N/A	N/A	N/A
Propellant Weight	N/A	N/A	N/A	N/A
Primer	N/A	N/A	N/A	N/A
Packaging	6 rounds per wooden pallet	8 rounds per wooden pallet	N/A	N/A

Figure 1-4 Schematic of M426, 8-Inch Howitzer Projectile

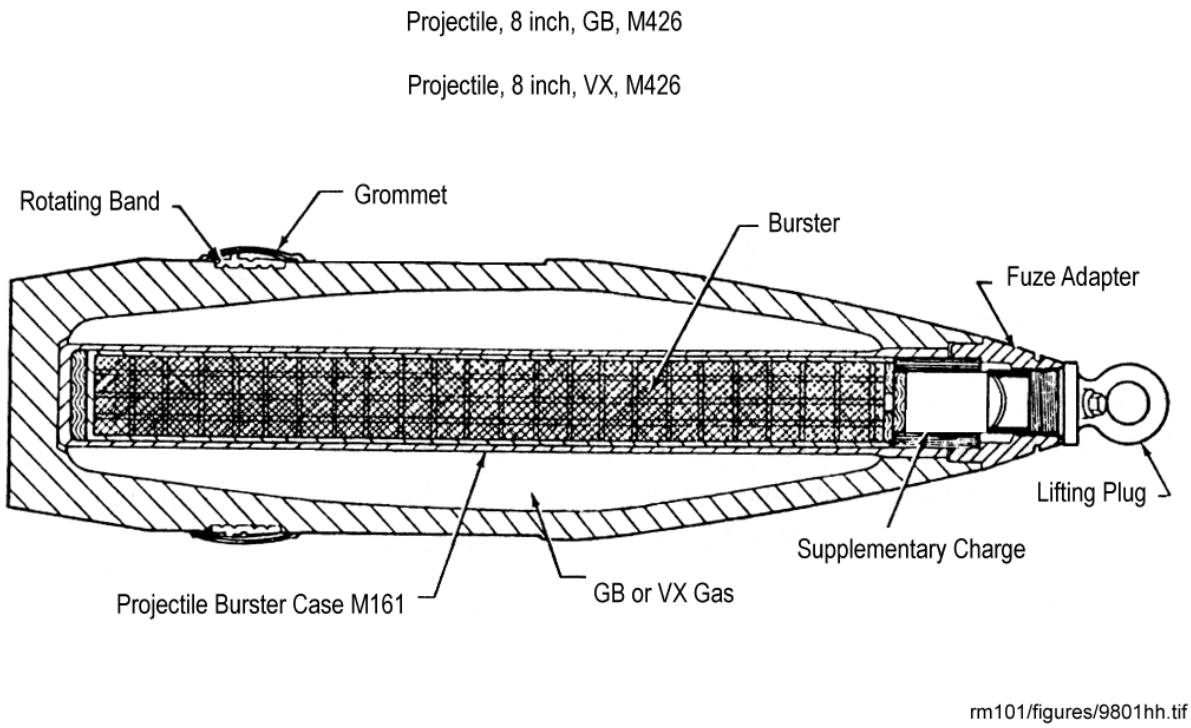

Table 1-5: M426, 8-inch Howitzer Projectile

Physical Characteristic	M426 Projectile
Length	35 inches
Diameter	8 inches
Total Weight	203 pounds
Chemical Agent	VX
Chemical Agent Weight	14.5 pounds
Fuze	N/A
Burster	M83
Explosive	M83, TNT
Explosive Weight	7.0 pounds M83, 0.3 pounds TNT
Propellant	N/A
Propellant Weight	N/A
Primer	N/A
Packaging	6 projectiles per pallet

Figure 1-5 4.2-inch Mortar Cartridge

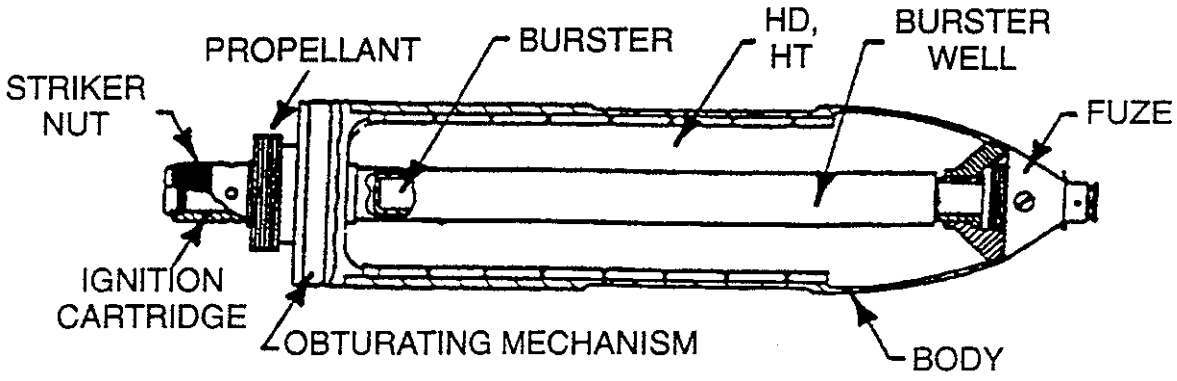

Table 1-6: M2/M2A1 4.2 Inch Mortar

Physical Characteristic	M2/HD	M2/HT	M2A1/HD
Length	21 inches	21 inches	21 inches
Diameter	4.2 inches	4.2 inches	4.2 inches
Total Weight	24.67 pounds	24.67 pounds	24.67 pounds
Chemical Agent	HD	HT	HD
Chemical Agent Weight	6.0 pounds	5.8 pounds	6.0 pounds
Fuze	M8	M8	M8
Burster	M14	M14	M14
Explosive	Tetryl	Tetryl	Tetryl
Explosive Weight	0.14 pound	0.14 pound	0.14 pound
Propellant	None	None	None
Propellant Weight	N/A	N/A	N/A
Primer	None	None	None
Packaging	One round/fiber container, 2 containers/wooden box	One round/fiber container, 2 containers per wooden box	One round/fiber container, 2 containers per wooden box

Figure 1-6 105mm Howitzer Cartridge

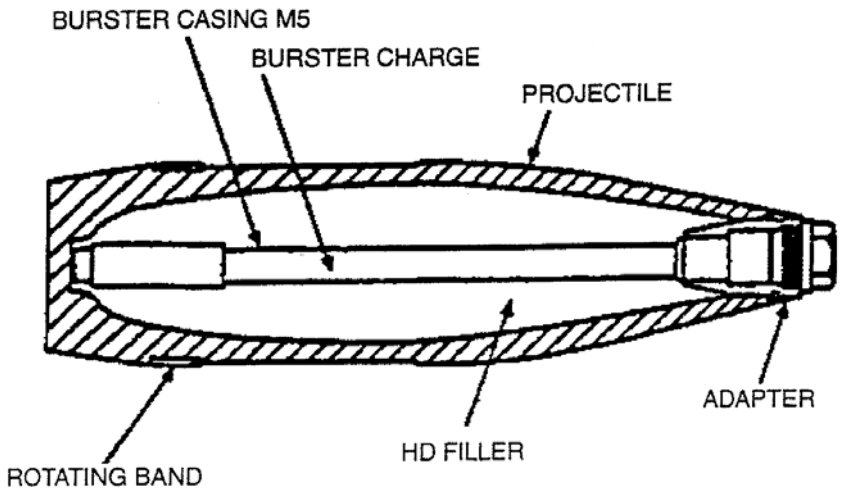

Table 1-7: M60, 105mm Howitzer Cartridge

Physical Characteristic	M426
Length	31.1 inches
Diameter	105 mm
Total Weight	42.92 pounds
Chemical Agent	HD
Chemical Agent Weight	2.97 pounds
Fuze	M557/M51A5
Burster	M5
Booster	M22
Explosive	Tetrytol
Explosive Weight	0.3 pounds
Propellant	N/A
Propellant Weight	N/A
Primer	N/A
Packaging	1 round/fiber container, 2 containers/wooden box

6.0 M23 Mine

6.1 The M23 VX Chemical Agent Mine has three fuze wells: a primary fuze well located in the center of the mine pressure plate (top of mine) and two secondary fuze wells located on the side and on the bottom of the mine. Mines, fuzes, and activators are packaged in a single steel drum. Figure 1-2 is a schematic representative of a M23 mine and Table 1-2 details the dimensions, weight, and agent fill type.

7.0 TMU-26/B Spray Tank

7.1 TMU-28/B spray tanks consist of an agent container, a suspension system, a tail cone section, a cutter, and a dissemination nozzle. The tanks are packed in CNU-77/E23 containers for storage purposes. CNU–77/E23 containers are 193 x 62 x 73 inches in size and weigh approximately 6,000 pounds. Figure 1-3 is a schematic representative of the TMU-28/B spray tank and Table 1-3 details the dimensions, weight, and agent fill type.

8.0 M104, M110, M121A1, M121, 155mm Howitzer Projectiles

8.1 155-mm M121A1, M121, M104, and M122 howitzer projectiles contain either H or VX chemical agents that are sealed in a cavity within the one-piece steel shell. Explosive compounds are sealed within the burster tube or the steel projectile body. Figure 1-4 is a schematic representative of a 155mm howitzer projectile and Table 1-4 details the dimensions, weight, and agent fill type.

9.0 M2/M2A1 4.2-Inch Mortar

9.1 Explosive compounds within 4.2-inch mortar cartridges are sealed within the burster tube or the steel projectile body. Mustard is sealed within the projectile body. Figure 1-6 is a schematic representative of a 4.2-inch mortar cartridge, and Table 1-6 details the dimensions, weight, and agent fill type.

10.0 M60, 105mm Howitzer Cartridge

10.1 Explosive compounds in an M60, 105mm Howitzer cartridge are sealed within the burster tube or the steel body. Mustard is sealed within the steel body of the 105 mm howitzer projectile. Figure 1-7 is a schematic representative of a 105mm howitzer projectile and Table 1-7 details the dimensions, weight, and agent fill type.

11.0 Agent-Related Wastes

11.1 The waste codes F999 and P999 shall be assigned to any waste that has come into contact with chemical agent per R315-2-10. Wastes will carry all applicable non-agent waste codes in addition to all applicable codes for agent and agent-related residues.

11.2 The various energetics contained in waste munitions are classified as reactive (D003) because they are composed of or contain explosives. Waste energetic materials that are contaminated with agent carry the D003 reactive code as well as TC metals, TC organics, and the P999.

12.0 Leaker Operations

12.1 Agent-related waste streams, which may be generated at DCD during response to leaking munitions, include but are not limited to:

12.1.1 Wood pallets, metal banding, bolts, and nails;
12.1.2 Plastic bags;
12.1.3 Liquid and or vapor-exposed Personal Protective Equipment (PPE) such as suits, gloves, boots and tape
12.1.4 Decontamination solutions;
12.1.5 High Efficiency Particulate Air (HEPA) filters and other charcoal filters exposed to agent;
12.1.6 Mask filters potentially exposed to agent;
12.1.7 Sorbents and other spill cleanup materials;
12.1.8 Empty used containers/drums;
12.1.9 Hydraulic fluids and oil;
12.1.10 Miscellaneous debris including hoses, meters, rags, and cords; or
12.1.11 Concrete, Soil and sediment.

13.0 Non-Agent-Related Wastes

13.1 Non-agent-related wastes are generated in the administrative and warehouse areas during environmental remediation activities, and are temporarily stored in authorized onsite storage facilities pending offsite disposal at an approved TSDF. Non-agent-related wastes have not come into contact with vapor or liquid agent. Non-agent-related waste streams include but are not limited to:

13.1.1 Waste paint and thinners;
13.1.2 Waste solvents;
13.1.3 Waste batteries and battery acid;
13.1.4 Contaminated soils from the remediation of Solid Waste Management Units (SWMUs);
13.1.5 Monitoring well waste;
13.1.6 Used oil and engine coolant from motor vehicle maintenance;
13.1.7 Used chemical mask filters not exposed to agent;
13.1.8 Waste starter fluids;
13.1.9 Used PPE; and
13.1.10 Universal wastes such as fluorescent bulbs and batteries.

13.2 Hazardous waste determination will be based on process knowledge and available MSDSs and may be supplemented with analytical data, which identify the hazardous characteristics of the waste. Sampling is required to aid in characterization, such as when waste characteristics cannot be determined through generator knowledge, MSDSs, or other preexisting information sources.

13.3 All hazardous wastes in containers are managed in accordance with R315-8-9 regulations, including compatibility of waste with respective containers and secondary containment for containers storing waste with free liquids. For a more detailed description of container management practices, see Container Management (Attachment 12).

14.0 Waste in Tank Systems [R315-8-10] – Not Applicable

15.0 Waste in Piles [R315-8-12.1(c)(1) - (c)(4)]

15.1 DCD manages discarded igloo doors fabricated of steel and concrete in waste piles located in Building 4107. The doors do not contain free liquids, are unlikely to generate leachate through chemical reactions, and have been assigned the F999 waste code. No wastes assigned the P999 waste code may be stored in a waste pile.

15.2 In addition to the igloo doors stored in the waste piles, DCD may store in the waste pile other inorganic F999 wastes that do not contain free liquids and are unlikely to generate leachate through chemical reactions.

16.0 Landfilled Wastes [R315-14.8; 40 CFR § 264.314] – Not Applicable

17.0 Wastes Incinerated and Waste Used in Performance Tests [R315-8-15.2, R315-3-6.3(b); 40 CFR § 264.341, 270.62(b)] – Not Applicable

18.0 Wastes to be Land Treated [R315-3-2.11(b)(4), R315-8-13.2(a)(1) and (2), R315-8-13.3, R315-8-13.5; 40 CFR § 270.20(b)(4), 264.271(a)(1) and (2), 264.272, 264.276, 261 Appendix VIII] – Not Applicable

19.0 Wastes in Miscellaneous Treatment Units [R315-3-2.14(d); 40 CFR § 264.601(a)(1), (b)(1), and (c)(1)]. Not Applicable

20.0 Wastes in Boilers and Industrial Furnaces [40 CFR § 266.102(b)] – Not Applicable

21.0 Test Methods [R315-8-2.4; 40 CFR § 264.13(b)(2)]

21.1 Analytical test methods used to characterize wastes shall meet the minimum requirements specified in USEPA SW-846 (most recent approved edition or update) "Test Methods for the Evaluation of Solid, Physical/ Chemical Methods" or other methods approved by the Executive Secretary. Methods for anticipated parameters are listed in Table 1-1-5, Sampling Methods and Rationale by Waste Stream (Appendix 1-1).

22.0 Sampling Methods [R315-8-2.4; 40 CFR § 261, Appendix I; 264.13(b)(3)]

22.1 If there is insufficient information to support characterization through generator knowledge, sampling and analysis will be conducted. The goal of the sampling program at DCD, as described in the WAP, is to collect samples representative of a particular waste stream. The following sections identify sampling methodology, sample handling, and the documentation required when sampling hazardous waste streams.

22.2 The use of proper sample collection procedures as well as quality control and assurance measures are critical in obtaining a representative sample. Sampling will be conducted using equipment specified in Table 1-1-4, Sampling Equipment (Appendix 1-1). The Utah certified laboratory contracted to perform analyses will provide sample containers compatible with the waste being sampled. Each sample shall be placed in the appropriate container, preserved, and analyzed within the timeframes specified in Table 1-1-7, Sample Containers, Preservation Methods, and Holding Times (Appendix 1-1). Reference SOPS for sampling various waste streams.

23.0 Frequency of Analysis [R315-8-2.4; 40 CFR § 264.13(b)(4)]

23.1 Table 1-1-3, Container Sampling Frequency (Appendix 1-1), shows the frequency at which samples will be collected from a waste stream and analyzed.

24.0 Additional Requirements for Wastes

24.1 Additional Requirements for Wastes Generated Off Site [R315-8-2.4; 40 CFR § 264.12(b), 264.13(b)(5), 264.73(b)]

24.1.1 In some instances, DCD may receive hazardous waste generated offsite. In order for the hazardous waste to be accepted by DCD, it must meet the following requirements:

24.1.1.1 The waste must have been generated by a Department of Defense (DOD) facility or a Formerly Used Defense Site (FUDS);
24.1.1.2 The waste must either support the mission of DCD or be a hazardous waste because it is agent-contaminated;
24.1.1.3 The waste must be packaged to meet applicable Department of Transportation (DOT) standards and be accompanied by the appropriate manifest(s); and
24.1.1.4 The waste must be approved for acceptance by the Executive Secretary.

24.1.2 DCD will inform the generator of the waste in writing that the waste meets the acceptance requirements for DCD and DCD agrees to accept the waste. A copy of the written notice will be kept by DCD as part of the operating record. A review will be performed of the characterization of the waste shipment supplied by the generator. The waste received will be visually inspected at the time of arrival at DCD to ensure container integrity and to confirm the identity of the shipped waste matches the identity designated on the accompanying manifest supplied by the generator. In the event that a discrepancy is found, the waste container causing the discrepancy will be returned to the generator. If no discrepancies are found, the hazardous waste shipment will be accepted and managed by DCD as appropriate based on waste documentation and/or supporting waste analysis supplied by the generator.

25.0 Additional Requirements for Ignitable, Reactive, or Incompatible Wastes [R315-8-2.4; 40 CFR § 264.13(b)(6), 264.17]

25.1 Ignitable, reactive, and incompatible wastes are protected from sources of ignition and reaction. Incompatible wastes and materials are not placed in the same container and are not stored on the same pallet as other containers storing other hazardous waste. DCD utilizes DOT guidelines to ensure appropriate storage of ignitable, reactive, and incompatible wastes. Additionally, all container storage units managing ignitable or reactive hazardous waste are located more than 50 feet away from the DCD property line. Smoking and spark-producing devices are not allowed in units storing ignitable waste.

26.0 Additional Requirements Pertaining to Boiler and Industrial Furnace Facilities [40 CFR § 266.102(e)] - Not Applicable

27.0 Additional Requirements Pertaining to Containment Buildings [R315-8-20; 40 CFR § 264.1100] - Not Applicable

28.0 Land Disposal Restrictions [, R315-5-1.11, R315-8-2.4, R315-8-5.3, R315-13-1; 40 CFR § 262.11, 264.13, 264.73, 268]

28.1 Generators of wastes prohibited from land disposal must determine whether the applicable LDR treatment standards have been met for the waste and treatment residues prior to ultimate land disposal. This determination shall be made in accordance with 40 CFR § 268.7. DCD will assign applicable waste codes to each waste stream managed onsite, determine all applicable treatment standards or prohibition levels that may apply to each waste stream, and identify regulated constituents and concentrations that are present in each waste stream. After comparing the concentrations of regulated constituents in hazardous wastes managed by DCD with the applicable treatment standards, a determination will be made as to whether or not each type of waste is restricted from land disposal in its current state. The procedures to comply with LDRs and treatment standards are described in the following sections.

28.2 Waste Analysis [R315-2-9, R315-8-2.4, R315-13-1; 40 CFR § 264.13(a)(1), 268.7]

28.2.1 DCD uses generator knowledge and/or analytical data to characterize all of its waste. Initially generator knowledge is used, which can be augmented by the methods listed in Table 1-1-6, Waste Characterization Methods (Appendix 1-1).

28.2.2 The United States Army was the manufacturer of chemical agents. Table 1-1-1, RCRA Hazardous Waste Designation and Rationale, lists the wastes generated, waste characteristics, and rationales for listings (Appendix 1-1). DCD's WAP describes how wastes are managed, including analytical methods, waste streams, and sampling methods, and also lists characteristic wastes and wastes with LDRs.

28.2.3 Spent Solvent and Dioxin Wastes [R315-2-10, R315-8-2.4, R315-13-1; 40 CFR § 264.13(a)(1), 268.7, 268.31(3), 261.30, 261.31]

28.2.3.1 DCD has spent solvents with waste codes F001, F002, F003, and F005, none of which contain dioxin. Characterizations of these wastes are based on generator knowledge and/or analytical data and are either incinerated onsite or are shipped offsite to an approved TSDF for further treatment and disposal.

28.2.4 California List Wastes [R315-8-2.4, R315-13-1; 40 CFR § 264.13(a)(1), 268.7, 268.42(a)]

28.2.4.1 DCD's inventory of California List wastes is limited to polychlorinated biphenyls (PCBs) found in electrical ballasts. The majority of these items contain PCB concentrations below the 50-ppm limit. However, if the waste is found to exceed the 50-ppm limit, they are disposed of in accordance with state and federal regulations, including notifying the TSDF of the presence of PCBs and associated concentrations in the waste in accordance with 40 CFR § 268.32.

28.2.5 Listed Wastes [R315-2-10, R315-13-1; 40 CFR § 261 Subpart D, 264.13(a)(1), 268.7, 268.33, 268.34, 268.35, 268.40(a), 268.41-43]

28.2.5.1 DCD manages multiple listed hazardous wastes that are subject to LDRs. Potential waste streams are identified in Appendix 1-1, Table 1-1-2, Hazardous Waste Streams and Storage Areas.

28.2.5.2 Treatment standards for these waste streams include maximum constituent concentration levels that must be met for each constituent with prohibition on land disposal found in 40 CFR § 268.40 or the treatment of a waste with a specific technology in 40 CFR 268.42.

28.2.6 Characteristic Wastes [R315-2-3(d)(1), R315-8-2.4, R315-13-1; 40 CFR § 264.13(a)(1), 268.7, 268.9, 268.37, Part 268.48, Part 268 Appendix IX]

28.2.6.1 DCD identifies and manages all characteristic wastes as required by RCRA and Utah Hazardous Waste Rules. Multiple characteristic wastes are managed at DCD. Potential waste streams are identified in Appendix 1-1, Table 1-1-1.

28.2.6.2 Wastes with ignitable, corrosive, reactive, or toxicity characteristics must meet treatment standards specified in 40 CFR § 268 Subpart D prior to land disposal. Additionally, the wastes require treatment for any applicable universal treatment standards (UTS) identified in 40 CFR 268.48. The majority of toxicity characteristic wastes must be compared to the Toxicity Characteristic Leaching Procedure (TCLP) standard to determine whether treatment standards apply.

28.2.6.3 Radioactive Mixed Wastes [R315-13-1; 40 CFR § 268.7, 268.30(c), 268.33(a), 268.35(a) and (c), 268.42(d)] - Not Applicable

28.2.6.4 Leachates [R315-5-1.10, R315-13-1; 40 CFR § 268.30(a), 268.31(a), 268.33(a), 268.34, 268.35(a)] - Not Applicable

28.2.6.5 Lab Pack [R315-13-1; 40 CFR § 268.7(a)(9), 268.42(c), Part 268 Appendix IV] - Not Applicable

28.2.6.6 Contaminated Debris [R315-3-2.4(n), R315-13-1; 40 CFR § 268.2(g), 268.7, 268.9, 268.45]

28.2.6.6.1 Contaminated debris generated at DCD will be characterized through process knowledge or analytical methods to determine whether these wastes will require further treatment prior to land disposal in accordance with 40 CFR § 268.45. Contaminated debris generated at DCD that is treated to meet the treatment standards specified in 40 CFR § 268.45 before being shipped offsite for land disposal will be accompanied by a certification stating that the waste does not contain listed or characteristic hazardous wastes at or above the treatment standards. Contaminated debris that contains listed or characteristic hazardous wastes will be shipped to an approved TSDF with a certification stating that the waste needs further treatment prior to disposal.

28.2.6.7 Waste Mixtures and Wastes with Overlapping Requirements [R315-8-2.4, R315-13-1; 40 CFR § 264.13(a)(1), 268.7, 268.9, 268.45(a)]

28.2.6.8. DCD characterizes all waste streams using generator and/or process knowledge. Further characterization is achieved by analytical methods, if necessary. Waste mixtures or wastes with overlapping requirements are identified during these processes and the receiving TSDF is properly notified of these multiple characteristics to ensure proper management.

28.2.6.9.Dilution and Aggregation of Wastes [40 CFR § 268.3] - Not Applicable

28.2.6.10.Notification, Certification, and Recordkeeping Requirements [R315-5-2, R315-5-4, R315-8-5.3, R315-13-1; 40 CFR § 264.73, 268.7, 268.9(d)]

28.2.6.10.1 DCD maintains all required documentation, waste manifests, sample analyses, and any other information used to determine the disposition and characteristics of wastes managed by DCD.

28.2.6.11.Retention of Generator Notices and Certifications [R315-13-1; 40 CFR 268.7]

28.2.6.11.1 DCD maintains onsite copies of all notices, certifications, waste analysis data, and other documentation produced during hazardous waste generation activities in accordance with 40 CFR § 268.7(a). DCD will supply all notices and certifications required for wastes that are sent to offsite TSDFs as required by 40 CFR § 268.7(a) through (c).

28.2.6.12Notification and Certification Requirements for Treatment Facilities [R315-13-1; 40 CFR § 268.7(b)]

28.2.6.12.1 DCD ships certain hazardous wastes treated onsite to offsite disposal facilities. Residues of hazardous wastes treated onsite will be tested to assure that they meet applicable treatment standards. A one-time notice compliant with the requirements of 40 CFR Subpart 268.7(b) will be sent with the initial waste shipment to the receiving disposal facility and a copy of the notice will be placed in the onsite treatment facility's file. A new notice will be sent to the receiving facility if the facility changes.

28.2.6.13 Notification and Certification Requirements for Land Disposal Facilities [R315-13-1; 40 CFR § 268.7(c)]

28.2.6.13.1 DCD does not land dispose hazardous waste. Therefore, this section does not apply.

28.2.6.14 Wastes Shipped to Subtitle C Facilities [R315-13-1; 40 CFR § 268.7(a), 268.7(b)(6)]

28.2.6.14.1 DCD ships certain hazardous wastes to RCRA Subtitle C facilities. Historical process knowledge, MSDSs, and other generator knowledge are used to characterize most of the wastes present at DCD. Waste generated during solid waste management unit clean-ups may require more thorough analytical evaluation. If further characterization is necessary, DCD uses a detailed sampling program to further characterize wastes. These analytical methods are presented in Table 1-1-6, Waste Characterization Methods. All wastes to be shipped offsite for disposal is characterized through process knowledge or analytical methods. Wastes with LDRs are identified, and the receiving TSDF is notified if the waste requires further management. The waste is labeled, packaged, and manifested according to RCRA and DOT procedures.

28.2.6.15 Wastes Shipped to Subtitle D Facilities [R315-13-1; 40 CFR § 268.7(d), 268.9(d)]

28.2.6.15.1 DCD ships certain wastes to RCRA Subtitle D facilities. DCD sends the required notifications and certifications to the TSDF, and maintains copies in DCD facility records. If new waste streams are generated and additional notifications are required, DCD will notify the receiving facility.

28.2.6.16 Recyclable Materials [R315-13-1; 40 CFR § 268.7(b)(6)]

28.2.6.16.1 DCD uses recycling when possible to minimize waste generation. DCD recycles wastes generated by maintenance activities such as used paint, oil, batteries, and antifreeze. Recycling activities are contracted to an offsite recycling facility and are managed by the Defense Reutilization and Marketing Office (DRMO).

28.2.6.17 Recordkeeping [R315-8-5.3, R315-13-1; 40 CFR § 264.73, 268.7(a)(5), 268.7(a)(6), 268.7(a)(7), 268.7(a)(8), 268.7(d)]

28.2.6.17.1 DCD uses generator knowledge and analytical methods to determine whether LDRs apply to wastes generated onsite. TSDFs receiving wastes are notified if LDR wastes are present and if further treatment is needed. DCD retains all documentation of analytical results or process information used in TSDF notification as well as manifests associated with offsite waste shipments in accordance with 40 CFR § 268(a)(7). DCD also maintains operating records for the facility and its hazardous waste activities.

28.2.6.18 Requirements Pertaining to the Storage of Restricted Wastes [R315-13-1; 40 CFR § 268 Subpart E, 268.50]

28.2.6.18.1 Wastes with prohibitions on land disposal identified in 40 CFR § 268 Subpart E may be stored in containers at DCD in order to accumulate the quantity of hazardous waste that is necessary to facilitate proper recovery, treatment, and/or disposal of the waste. Restricted wastes may be stored at DCD for up to one calendar year.

28.2.6.19 Restricted Wastes Stored in Containers [R315-8-9, R315-13-1; 40 CFR § 268.50(a)(2)(i)]

28.2.6.19.1 Wastes stored in containers at DCD that are restricted from land disposal under 40 CFR § 268 Subpart C are managed in compliance with the requirements of 40 CFR § 268.50(a)(2)(i), including a clear demarcation of content identity and the accumulation start date.

28.2.6.20 Restricted Wastes Stored in Tanks [R315-13-1; 40 CFR § 268.50(a)(2)(ii)] - Not Applicable

28.2.6.21 Storage of Liquid PCB Wastes [R315-13-1; 40 CFR § 268.50(f)] - Not Applicable

28.2.6.22 Exemptions, Extensions, and Variances to Land Disposal Restrictions [R315-13-1]

28.2.6.22.1 DCD is not seeking any exemptions, extensions, or variances to LDRs.

Table 1-1-1: RCRA Hazardous Waste Designation and Rationale		
Waste Material	RCRA Hazardous Waste Designation (Number)	Basis for Designation
AGENT-RELATED WASTE		
Chemical Agents		
GA, GB, VX, mustard, or L	Utah State Waste Designation Discarded Chemical Products P999	Agents are designated as hazardous based on Utah Administrative Code (UAC)
Propellants		
M28	Reactive (D003) Lead (D008)	Contains Division 1.1 explosives, nitrocellulose and nitroglycerin, as per 49 CFR § 173.53 and 173.50.
M6	Reactive (D003)	Contains Division 1.1 explosive, nitrocellulose, as per 49 CFR § 173.53 and 173.50
M67	Reactive (D003))	Contains Division 1.1 explosive, nitrocellulose, as per 49 CFR § 173.53 and 173.50
Fuzes		
M417	Reactive (D003)	Contains a Division 1.1 explosive, RDX, as per 49 CFR § 173.53 and 173.50.
M508	Reactive (D003)	Contains a Division 1.1 explosive, RDX, as per 49 CFR § 173.53 and 173.50.
M603 including M45 detonator and M120 booster	Reactive (D003) Lead (D008)	Contains a Division 1.1 explosive, RDX, as per 49 CFR § 173.53 and 173.50. Also contains lead azide and sulfocyanate salts. Both the M45 detonator and M120 booster contain the Class A explosive RDX.
Cutters		
Inlet cutter (MLU-39/B)	Reactive (D003)	Contains a Division 1.1 explosive, RDX, as per 49 CFR § 173.53 and 173.50.
Outlet cutter (MLU-40A/B)	Reactive (D003)	Contains a Division 1.1 explosive, RDX, as per 49 CFR § 173.53 and 173.50.

Table 1-1-1:
RCRA Hazardous Waste Designation and Rationale (Continued)

Waste Material	RCRA Hazardous Waste Designation (Number)	Basis for Designation
Miscellaneous Explosives Munition Components		
M63 (Detonator)	Toxicity Characteristic: Barium (D005) Lead (D008) Reactive (D003)	Contains TC metals (lead and barium) and contains a Division 1.1 explosive, RDX, as per 49 CFR 173.53 and 173.50.
M2 (Squib)	Toxicity Characteristic: Lead (D008) Reactive (D003)	Contains a TC Metal (lead) and contains a Division 1.1 explosive, nitrocellulose, as per 49 CFR 173.53 and 173.50. Also contains a magnesium/potassium perchlorate mixture that may be ignitable.
M62 (Igniter)	Reactive (D003)	Contains magnesium, potassium perchlorate, and cellulose nitrate-camphor. Also contains a magnesium/potassium perchlorate mixture that may be ignitable.
Bursters and Initiators	Reactive (D003) May contain 2,4-Dinitrotoluene (D030)	Contain explosives.
Spent Decontamination Solutions		
Chemical agent-specific: GB (NaOH) VX (NaOCl) Mustard (NaOCl)	Corrosive (D002) (in some cases where pH > 12.5) F999, F999/P999	May be corrosive (D002) if the pH is greater than 12.5 as determined by sampling. F codes are applied as required by UAC rules.
Metal Parts and Scrap Metal		
Munition casings, ton containers, empty metal containers, and other metal parts	TBD	TBD
Other Miscellaneous Wastes		
Ventilation system (HEPA filters and prefilters) and respirator filters	Toxicity Characteristic: Metals (D004-D011) Non-Specific Source (F999)	These filters may be contaminated with chemical agent. Respirator filters may contain small amounts of chromium and silver according to MSDS information. Other metals may also be present.

Table 1-1-1:
RCRA Hazardous Waste Designation and Rationale (Continued)

Waste Material	RCRA Hazardous Waste Designation (Number)	Basis for Designation
Spill cleanup materials	Non-Specific source (F999) Spent Solvents (F001-F005) Toxicity Characteristic: Metals (D004-D011)	Waste codes will be applied based on generator knowledge of the spilled material.
Paint wastes	Spent solvents (F002-F005) Ignitable (D001) Toxicity Characteristic: Metals (D004-D011) Organics (D018, D035) Non-Specific Source (F999)	Waste codes will be assigned based on MSDS information for the materials used and generator knowledge of whether wastes potentially contacted chemical agents.
Bulk charcoal	Toxic (P999/F999)	Bulk charcoal from the ventilation filter systems. Charcoal from filter used in managing chemical agents is listed as hazardous waste.
Hydraulic fluids	Toxic (F999)	Waste hydraulic fluids are residuals containing chemical agent
Surrogate chemical agents	Ignitable (D001) Toxic (U037), Toxic (U131), Toxic (U210), Toxic (U211), Toxic (U226)	Surrogate chemical agents contain and have a flash point of 136°F.
Agent-contaminated miscellaneous wastes	Toxic (F999/P999 Metals (D004-D011) Solvents (F001-F005)	
Broken glassware	Non-Specific Source, (F999)	Based on generator knowledge and/or air monitoring of agent contamination.
Chemical agent-contaminated miscellaneous wastes	Toxicity Characteristic: Metals (D004-D011) Organics (D012-D043) Non-Specific Source (F999)	Miscellaneous wastes generated (such as packing, metal pieces, insulation, electrical components, air hoses, pallets, PPE, absorbents, plastic bags, etc.) during storage activities may be contaminated with chemical agent (3X) and will be characterized and managed accordingly.

Table 1-1-1: RCRA Hazardous Waste Designation and Rationale (Continued)		
Waste Material	RCRA Hazardous Waste Designation (Number)	Basis for Designation
NON-AGENT-RELATED WASTE (Other waste codes may be applied based on sampling and analysis)		
Battery acid and batteries	Corrosive (D002) Toxicity Characteristic: Metals (D006-D009, D011) Reactive (D003)	Battery acid is comprised of sulfuric acid (D002) and contains lead. Other batteries may contain other metals. Lithium batteries are water-reactive (D003) and ignitable (D001). Designation is by generator knowledge.
Solvents and adhesives, including solvent-based commercial products (flammable)	Ignitable (D001) Toxicity Characteristic: Solvents (D018-D043) Toxicity Characteristic: Metals (D007, D010) Spent Solvents (F001-F005) U002, U019, U044, U056, U080, U088, U117, U122, U140, U154, U165, U220, U228, U239	Designation based on generator knowledge, MSDSs.
Solvents (degreasing)	Spent halogenated degreasing (F001-F005) Toxicity Characteristic: Solvents (D018, D038-D040) Metals (D004-D011) Ignitable (D001)	Based on process knowledge that metal may become mixed into degreasing solvents during use.
Detonation residues	Reactive (D003) Toxicity Characteristic: Metals (D004-D011)	D003 based on potential explosive component residues. TC Metals based on destruction of metal components in detonations.
Fluorescent bulbs	Lead (D008) Mercury (D009)	Designation based on generator knowledge, MSDSs.
Brake fluid	Ignitable (D001) Nitrobenzene (D036)	Designation based on generator knowledge, MSDSs.

Table 1-1-1:
RCRA Hazardous Waste Designation and Rationale (Continued)

Waste Material	RCRA Hazardous Waste Designation (Number)	Basis for Designation
Hydraulic and other oils and lubricants	D005-D008 Benzene (D018) Nitrobenzene (D036) Spent solvents (F002-F005)	Designation based on generator knowledge, MSDSs. TCLP solvent codes may be applied based on generator knowledge and MSDS information. F codes may be applied based on MSDS information about lubricant solvents.
Paint waste (paints, thinners, stains, coatings, varnish, sealers)	Ignitable (D001) Toxicity Characteristic: Metals (D004-D011) Benzene (D018) Methyl Ethyl Ketone (D035) Tetrachloroethylene (D039) Spent solvents (F002-F005)	Paint wastes are ignitable if they contain flammable solvents, are labeled as flammable, or have MSDS information showing a flash point < 140°F. TCLP metal and organic codes and F codes will be applied based on MSDS information.
Waste decontamination solids (decontamination powder, decontamination kit, sodium hypochlorite, sodium hydroxide)	Ignitable (D001) Corrosive (D002) Reactive (D003)	Expired, out-of-service, unusable chemical agent decontamination powders.
Non-agent contaminated miscellaneous wastes	Spent solvents (F001-F005)	
Acids, including commercial chemical products containing acids	Corrosive (D002) Ignitable (D001) Hydrofluoric Acid (U134)	The D002 code applies to all materials with pH <2. D001 code applies to all oxidizing acids, including nitric and perchloric. Off-specification unused HF will receive a U code.
Diesel fuel and gasoline mixed with solvents	Ignitable (D001) Benzene (D018) Spent solvents (F001-F005) Cadmium (D006) Chromium (D007) Lead (D008)	Fuels are known to be ignitable and to contain >5 ppm benzene. Lead will be present in leaded fuels. Spent solvent codes may be applied based on a generator's knowledge of process.
Peroxides	Ignitable (D001)	Oxidizing peroxides are ignitable.

Table 1-1-1:
RCRA Hazardous Waste Designation and Rationale (Continued)

Waste Material	RCRA Hazardous Waste Designation (Number)	Basis for Designation
Wood preservative with pentachlorophenol	Ignitable (D001) Pentachlorophenol (D037) Discarded unused formulations containing pentachlorophenol (F027)	All waste codes are based on MSDS information.
Agent detection kits	Ignitable (D001) Mercury (D009)	Kits are known to contain flammable solvents and mercury compounds.
Alkaline liquids and solid hydroxide salts	Corrosive (D002)	Liquids with pH >12.5 are corrosive. Solids are not designated D002.
Zinc and other metals (powdered and whole)	Ignitable (D001) Reactive (D003) Cadmium (D006)	Most metal powders are ignitable. Some metals such as lithium, sodium, and magnesium may also be reactive when mixed with water (D003).
Ink with solvents, metals	Ignitable (D001) Barium (D005) Chromium (D007)	Inks with flammable solvents or flash points <140°F.
Hypochlorite salts and solutions/pool cleaning chemicals	Corrosive (D002) Ignitable (D001)	Some hypochlorite solutions may be pH <2 and may be oxidizers.
Creosote/asphalt mixture	Creosote (U051) Spent cresol solvent (F004)	Designation based on generator knowledge, MSDSs.
Pyrethrin and other pesticides	Ignitable (D001) 2,4-D and salts (U240) Spent solvents (F002-F005) Organics (D012-D017, D020, D037, D041-D042)	Waste codes based on chemical inventories and MSDS information. Pesticides with flammable solvents will be designated D001.
Adhesives/ Cements	Ignitable (D001) Spent solvents (F002-F005)	Adhesives with flammable solvents will be designated D001. Spent solvent codes are based on MSDS information.
Fuel/gas cylinders	Ignitable (D001)	D001 applies to flammable gases such as propane and butane.
Oxygen	Ignitable (D001)	Oxygen is an oxidizer.
Welding rods	Chromium (D007)	MSDS information for some welding rods indicates >5-ppm chromium.

Table 1-1-1: RCRA Hazardous Waste Designation and Rationale (Continued)		
Waste Material	RCRA Hazardous Waste Designation (Number)	Basis for Designation
Soldering flux and paste	Corrosive (D002) Ignitable (D001)	Waste codes are based on generator knowledge that most fluxes are acidic (or simple pH tests) and MSDS information on flash points of solvents.
Conversion pads	Silver (D011)	V to G conversion pads are composed of silver fluoride.
Ballasts	Lead (D008)	MSDS information shows that some ballasts contain >5-ppm lead and polychlorinated biphenyls (no RCRA code).

Table 1-1-2: Hazardous Waste Streams and Storage Areas		
Facility	Function	Waste Streams
Chemical Storage Igloos	Hazardous Waste Storage	Hazardous waste with and without free liquids
Building 4536	Hazardous Waste Storage	Hazardous waste without free liquids
Building 4553	Hazardous Waste Storage	Hazardous waste with and without free liquids
Building 4107	Hazardous Waste Storage	Waste piles containing discarded igloo doors and container storage of hazardous waste with or without free liquids
OB/OD Conex	Waste explosives and propellant storage	Waste explosives and other energetic components from OB/OD activities

Table 1-1-3: Container Sampling Frequency	
Number of Containers	Number of Containers to be Sampled
1 to 8	1
9 to 25	2
26 to 50	3
51 to 90	5
91 to 150	8

Table 1-1-4: Sampling Equipment		
Waste Stream	Equipment	Method
Large Containers of Liquids	Composite Liquid Waste Sampler (COLIWASA)	USEPA SW846 Methods 3.2
Solids and Semi-solids	Stainless Steel Scoop	USEPA SW846 Methods 3.2
Small Containers of Liquids	Pipette	USEPA SW846 Methods 3.2

Table 1-1-5:
Sampling Methods and Rationale by Waste Stream

Waste	Analysis	Frequency	Sampling Method(1)	Rationale
Chemical Agents (Mustard, L, GA, and VX) in Waste Munitions and Bulk Items	Generator Knowledge based on TOCDF/CAMDS Stockpile sampling programs.	NA	Approved Sampling Plans	Sampling and analysis will be performed prior to treatment of this waste stream.
Explosives/ Propellants in Munitions	Generator Knowledge	Prior to treatment	None	Samples are difficult or dangerous to obtain from this waste stream. Generator knowledge will be used for treatment, which is incineration at an on-site disposal facility.
Non-agent related Hazardous Wastes	TC Metals (D004-D011) Method 1311/6010B TC Organics (D012-D043) Method 1311/8260B/8270C) Ignitability (1010, 1020A) Corrosivity (9040B) Reactivity Other analyses requested by the DRMO	Each new waste type, and change in process or composition of waste generated a minimum of yearly is required. Prior to transfer to DRMO for offsite shipment	Thief, COLIWASA, grab, or process knowledge.	Non-agent contaminated hazardous wastes will be characterized for offsite treatment, storage, or disposal based on the material/process generating the waste and analytical data. Each of the parameters will be identified and analyzed for on a case-by-case basis.

Table 1-1-5:
Sampling Methods and Rationale by Waste Stream

Waste	Analysis	Frequency	Sampling Method(1)	Rationale

(1) Sample containers and preservation techniques, if any, will be in accordance with individual method of analysis (see Table 1-1-4).

COLIWASA = Composite Liquid Waste Sampler
HEPA = High Efficiency Particulate Air
TC = Toxicity Characteristic
HRA Health Risk Assessment
BDAT = Best Demonstrated Available Technology
LDR = Land Disposal Restriction
TCLP = Toxicity Characteristic Leaching Procedure

(2) Batch is defined as 10 drums or less

Table 1-1-6:
Waste Characterization Methods

Parameter	Method	Rationale
pH	USEPA SW846 Method 9040, 9045	Determine corrosivity
Flash Point	SW846 Method 1010 SW846 Method 1020A 1030	Determine ignitability
Free Liquids	Visual or SW846 Method 9095A	Determine if free liquids are present in solid waste
Total Metals Content	SW846 Methods 7131, 7191, 7421, 7470A, and 7471A, 6010B, 3010A, 3050B	Determine metals toxicity
TCLP	SW846 Method 1311	Obtain leachability sample
Specific Gravity	ASTM D 5057	Determine specific gravity
Water Content	USEPA 600/4-79/020	Determine water content
Fuel Value	ASTM D 5468	Determine recyclability of wastes
Volatile Organic Compounds (VOCs)	SW846 Method 8260B	Determine toxicity
Mustard Agent	LAB 66-03-01-02 Procedure for Analysis of HD Liquid Waste, Brine Salts, Residue and Furnace Ash LAB 66-00-00-11 HD Purity Determination TE-LOP-572-Laboratory Operating Procedure for Extractions/Analyses TE-LOP-574-Laboratory Operating Procedure for Special Analysis, TE-LOP 584-Laboratory Operating Procedure for Neat Agent Operation and Gas Chromatographic Determination of Concentration of Agent Standards	Determine if mustard is present in solids or liquids

GB Agent	LAB 66-10-04-01 Analysis of GB Liquid Waste, Brine Salts, Residue and Furnace Ash Samples LAB 66-00-00-10 GB Purity Determination TE-LOP-572-Laboratory Operating Procedure for Extractions/Analyses TE-LOP-574-Laboratory Operating Procedure for Special Analysis TE-LOP 584-Laboratory Operating Procedure for Neat Agent Operation and Gas Chromatographic Determination of Concentration of Agent Standards	Determine if GB agent is present in solids or liquids
VX Agent	LAB 66-20-01-01 VX Analysis of Liquid Waste, Brine Salts, Residue and Furnace Ash Samples LAB 66-00-00-12 VX Purity Determination TE-LOP-572-Laboratory Operating Procedure for Extractions/Analyses TE-LOP-574-Laboratory Operating Procedure for Special Analysis, TE-LOP 584-Laboratory Operating Procedure for Neat Agent Operation and Gas Chromatographic Determination of Concentration of Agent Standards	Determine if VX agent is present in solids or liquids
Lewisite	LAB 66-80-99-03 Liquid Lewisite Analysis by HPLC with MS	Lewisite Purity Determination
GA	LAB 66-70-01-02 Analysis of GA Brine, Ash and Reside	Determine if GA agent is present in solids or liquids
Halogenated VOCs	SW846 Method 8260B	Determine organic toxicity
Pesticides	SW846 Method 8082	Determine organic toxicity
Cyanide	SW846 Method 9010B, 9012A, or 9014	Determine reactivity
Explosives	SW846 Method 8330	Determine explosive concentrations. Determine total secondary explosive concentration for reactivity.
Semi-volatile Organics	SW846 Method 8270C	Determine organic toxicity

Table 1-1-7:
Sample Containers, Preservation Methods, and Holding Times

Parameter	Container	Preservation	Extraction	Analysis
		SOLIDS		
Total Solids	1 x 4 oz glass	Cool 4°C	NA	28 Days
Metals	1 x 4 oz glass	Cool 4°C	NA	180 days (mercury 28 days)

VOCs	2 x 4 oz Glass, Teflon Septa, no headspace	Cool 4°C	NA	14 days
Mustard Agent	Polyethylene bag 1 x 16 oz glass	Cool 4°C	7 days	24 hrs
Nerve Agent	1 x16 oz. Glass.	N/A		30 days
TCLP Pesticides, Semi-Volatile Organic Compound (SVOCs)	1 x 16 oz glass	Cool 4°C	14 days	40 days
Cyanide	1 x 4 oz glass	Cool 4°C	NA	14 days
Explosives	Polyethylene bag	Cool 4°C	14 days	40 days
		LIQUIDS		
Metals	1-L polypropylene plastic	Cool 4°C HNO_3 to pH<2 except GA and GB, no preservation	NA	180 days (mercury 28 days) GB and GA metals 14 days w/o preservatives
VOCs	3 x 40 mL glass, Septa vial, no headspace	Cool 4°C HCl or NaHSO4 to pH<2 except GA and GB, no preservations except cool 4°C.	NA	14 days with preservatives GB and GA samples 7 days w/o preservatives
Pesticides, SVOCs	1-L amber glass	Cool 4°C	7 days	40 days
Cyanide	1-L plastic	10 M. NaOH, pH>12, Cool 4°C		14 days
Chemical Agents	40 mL glass Only at the Surety Lab at CAMDS	Cool 4°C	72 hours	72 hours
Explosives	Amber Glass	Cool 4°C	7 days	40 days